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09/689,647	10/13/2000	Walter Hans Meissner	2925-0438P	7894

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EXAMINER
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ART UNIT	PAPER NUMBER
2153	

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>28 June 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>13 October 2000</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/28/04</u>.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

This Office action is in response to applicant's request for continued examination

filed on June 28, 2004. Claims 1-15 are presented for further examination.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1.   Claims 1-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to

comply with the enablement requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to enable one skilled in the art to

which it pertains, or with which it is most nearly connected, to make and/or use the

invention.

In considering claim 1, Examiner was unable to find any description in the

specification relating to a step of encoding each layer context of linked layer contexts.

The specification describes a "layer context" as a structure relating to the message layer

that is stored at a particular address (see specification, p. 8, lines 5-6, "Each layer is

represented by a 'context.' The context is at the address at which the values and

methods for that layer are stored..."). The specification describes that message

including its layers can be encoded, but does not describe that layer contexts are

encoded or how such layer contexts can be encoded. Thus, the step of "encoding each

layer context" is not enabled by the specification.

Claims 2-14 depend from claim 1 and are thus rejected for the same reasons.

2.   Claims 1-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In considering claim 1, the step of "encoding each layer context" was not described in the specification as originally filed. Claims 2-14 depend from claim 1 and are thus rejected for the same reasons.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3.   Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are as follows:

In considering claim 15, the preamble of the claim recites "a method for processing a formatted layered message... the processing of the formatted layered message comprising the steps of...." However, the remainder of the claim fails to describe a method for processing a formatted layered message. The body of the claim only describes a method for *forming* the formatted layered message from unformatted

parts, but does not describe how the formatted message is processed. Therefore, the

essential steps of actually processing the formatted message are missing.

4.   Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

In considering claim 1, the term "the layer context" on line 5 is ambiguous

because it refers to a specific individual "layer context" but the remainder of the claim

only refers to multiple layer contexts in general. Therefore, it is not clear as to which of

the layer contexts the individual "layer context" of line 5 refers.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Moberg

et al. (U.S. Patent No. 6,578,084, hereinafter "Moberg").

Note, because the terms "linking," "layer contexts," and "encoding" are all vague terms that can have any of numerous meanings within the computer networking art, the terms have been interpreted broadly.

Regarding claim 1, Examiner has interpreted the term "the layer context" on line 5 of claim 1 as "each layer context," wherein a "layer context" can be a layer description, a layer property, or a data associated with the layer, such as the packet data or header information.

In considering claim 1, as understood, Moberg discloses a method of processing a message comprised of a plurality of layers (Fig. 2: The message layers used on the LAN, item 12A are Ethernet, IP, TCP, and HTTP. The Wide Area Network link, item 16 uses layers HDLC, IP, TCP, and HTTP), the method comprising the steps of:

Linking a plurality of layer contexts based on addresses (col. 5, lines 20-26, wherein each protocol layer is combined into a message, and each of the protocol layers will have an associated address (i.e. IP address for the IP layer, TCP port number address, HTTP address, etc., are linked since they are in the same packet)); and

Encoding each layer of the plurality of layer contexts after the step of linking is complete (col. 5, lines 30-36, wherein the unformatted elements are encapsulated, compressed, encrypted, etc., which encodes the layered message), the layer contexts being associated with the message (the layer contexts are the message elements, such as the IP, TCP, and HTTP portions of the message).

In considering claim 2, Moberg further discloses the steps of:

Determining an address of a first layer context, and passing the address of the first layer context to a second layer, which is adjacent to the first layer (i.e. passing the HTTP address (first layer context) down to the TCP layer in forming the packet, col. 5, lines 20-25); and

Setting a second layer context address equal to the address of the first layer, whereby the contexts of the first and second layers are linked (i.e. the TCP layer encapsulates the HTTP data, which includes the HTTP address, and thereby sets the second (TCP) layer context address equal to the first (HTTP) address, thereby linking the two).

In considering claim 3, Moberg further discloses the steps of:

Passing the address of the linked contexts of the first and second layers to an adjacent subsequent layer (i.e. to the IP layer, col. 5, lines 20-25);

Setting a context of the adjacent subsequent layer context equal to the address of the linked context of the first and second layers, whereby the linked context and the context to the adjacent subsequent layer is thereby linked (again, the IP layer encapsulates both higher layers, thereby setting the IP layer context address as the same as the previous two layer addresses); and

Repeating the steps of linking layer contexts until each layer context in the plurality of layer contexts is linked (the system does this for all layers of the protocol stack).

In considering claim 4, Moberg further discloses that each layer context comprises variables and methods (i.e. each header includes variables and methods, such as addresses, instruction bits, etc.).

In considering claim 5, Moberg further discloses variables comprising a least header and trailer field values (header and trailer fields in TCP and IP are standard), buffer positions (header length fields are also standard), and addresses to other contexts (i.e. the encapsulated addresses to the other layers, col. 5, lines 20-25).

In considering claim 6, Moberg further discloses that the encoding method includes at least methods for encoding (encapsulation) and decoding (decapsulation), one method decoding being a method for furnishing a context of a message (decapsulation to recover the remainder of the message furnishes the higher layer contexts, col. 5, lines 53-67).

In considering claim 7, Moberg further discloses that the method for encoding comprises a method for computing message body dependent fields to include message length and CRC (Fig. 3, the HDLC standard packet must have a message length and a CRC field.

In considering claim 8, Moberg further discloses that the step of encoding comprises the steps of:

Incrementing a current buffer position by a header length of a first layer (Fig. 3, the first layer HTTP Header, item 24, is appended directly to the message in the buffer, thereby incrementing the buffer position by the length of the HTTP header) in the linked plurality of layers;

Setting the current buffer position equal to the buffer position obtained by incrementing the current buffer position by the header length of the first layer (Fig. 3, the TCP header, item 26, which is the next layer after the HTTP layer, will occupy the address space in the buffer, obtained by incrementing the start of message address by the HTTP header length); and

Repeating the incrementing and setting steps for each of the remaining linked layers (the TCP header is added to the buffer then the IP header will be added by incrementing the buffer position by the size of the TCP header – Fig. 3, col. 5, lines 19-25).

In considering claim 9, Moberg further discloses calculating an aggregate value for layer contexts having variable length headers (TCP implementation requires the support of variable length headers as per RFC 793, therefore the TCP header inherently calculates the aggregate value of a variable length header); and setting the aggregate value equal to the header length in said incrementing step (Fig. 3).

In considering claim 10, Moberg further discloses the step of terminating buffer incrementing upon detection of an end-of-layer context indicator (the buffer will only increase up to the size of the previous layer).

In considering claims 11 and 12, Moberg further discloses:

Moving header field data of each layer context into a message stream (Fig. 3, item 20C);

The movement of header field data results in a formatted message stream having therein encoded data obtained from the linked plurality of layer contexts (Fig. 3, col. 5, lines 19-32 discloses a message ready for transmission which would be fully encoded).

Although Moberg does not explicitly discuss moving trailer data of each layer context into the message, or that the trailer field data associated with each layer comprise CRC/FCS data, note that the that the HDLC protocol specifications and Ethernet specification require a trailer value, which is a CRC value, to be included in all messages. Thus, because Moberg discloses the use of Ethernet and HDLC, Moberg necessarily discloses moving the trailer data of each layer context into the message and discloses using CRC/FCS data.

In considering claim 13, Moberg further discloses that the step of linking entails linking layer contexts comprising unformatted layer values (before the packets are encapsulated, compressed, and encrypted, they are unformatted).

In considering claim 14, Moberg further discloses that the encoding step encodes each layer context of the linked plurality of layer contexts into a single buffer (Fig. 3 item 20C, the reformatted message is a single buffer that includes the application message and the headers for each layer; col. 5, lines 31-36).

Regarding claim 15, Examiner has interpreted the preamble of claim 15 as "A method for *forming* a formatted layer message..." to resolve the 35 USC 112, 2nd paragraph issue regarding an omission of essential steps.

In view of this interpretation, Moberg discloses a method for forming a formatted layered message for transmission over a communication network, the formatted layered message having encoded data, the forming of the formatted layered message comprising the steps of:

Combining unformatted elements to link a plurality of layer contexts based on addresses (col. 5, lines 20-26, wherein each protocol layer is combined into a message, and each of the protocol layers will have an associated address (i.e. IP address for the IP layer, TCP port number address, HTTP address, etc., are linked since they are in the same packet)); and

Using a method on the unformatted elements to form the formatted layered message (col. 5, lines 30-36, wherein the unformatted elements are encapsulated, compressed, encrypted, etc., which formats the layered message).

Response to Arguments

Applicant's request for reconsideration filed on June 28, 2004 makes the following factual arguments:

a.   Moberg fails to disclose linking a plurality of layer contexts based on addresses and encoding each layer context of the plurality of layer contexts after the step of linking is complete, the layer context being associated with the message, as recited in claim 1.

b.   Moberg fails to disclose combining unformatted elements to link a plurality of layer contexts based on addresses and using a method based on the combining step on the unformatted elements to form a formatted layered message, as recited in claim 15.

Examiner respectfully disagrees with both of these arguments, primarily for the reasons described in the claim rejections above. Note that the terms "linking," "layer contexts," "addresses," and "encoding," are broad terms that can be interpreted broadly. Examiner has interpreted them in the manner described in the claim rejections above, and thus the claims remain rejected.

In further considering (a), Applicant contends that Moberg does not disclose the added limitation that the layer context is associated with the message. Examiner respectfully disagrees. Col. 5, lines 20-25 describes linking "layer contexts" wherein the layer contexts are the HTTP, TCP, IP, etc. elements that are used to encapsulate and form the packets, such that the layer context elements are in fact associated with the message, since they are part of the message.

In considering (b), Applicant contends that the chaining of functions of Moberg is not the same as the claimed "combining unformatted elements." Examiner believes this

point is moot, because Examiner has not interpreted the chaining functions of Moberg as being the same as the claimed "combining unformatted elements." See the claim rejection above, which explains that the combined unformatted elements are the different layers, and that the steps of encapsulation, encryption, and compression constitute the formatting of the combined unformatted elements.

Note: Various aspects of Applicant's disclosure, such as the fact that a "context" is at an address at which the values and methods for a particular layer are stored, and the fact that layers of the message include addresses or pointers that point to the context of the next higher layer as described on page 8 of the specification, have not been claimed, but might overcome the prior art rejections depending on how they are incorporated into the claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley Edelman whose telephone number is 703-306-3041. The examiner can normally be reached from 9 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on 703-305-4792. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

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Business Center (EBC) at 866-217-9197 (toll-free).

Bradley Edelman

BE
September 1, 2004